

### REMARKS

Claims 18 to 23 are added, and therefore claims 7, 8, and 10 to 23 are now pending.

In view of the following, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Claims 7, 8, and 10 to 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,048,613 (“Ito”), in view of DE-4310354 (“DE ‘354”), and in further view of U.S. Patent No. 5,549,369 (“Rump”).

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Also, as clearly indicated by the Supreme Court in *KSR*, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *See KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1396. Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

The Ito, DE ‘354, and Rump references, whether taken alone or combined, do not disclose or suggest the feature of claim 12 in which “the situation analyzer unit *corrects the provisional point in time* of initiating an emergency braking on the basis of the vehicle deceleration as given by the determined coefficient of friction.”

More specifically, DE ‘354, as discussed in the Background Section at page 1, line 19, to page 2, line 3, of the present application states that information is “used for changing the *setpoint value* of the adaptive cruise control”, and it further states that “[i]f during warning braking, it turns out that the roadway has a relatively low coefficient of friction, a longer *setpoint distance* is selected to increase driving safety.” As clearly indicated, the *setpoint distance* is altered. This

discloses nothing about “correct[ing] the provisional point in *time* of initiating an emergency braking,” as provided for in the context of the presently claimed subject matter. The Office essentially concedes this distinction by stating “that the teaching of braking a longer distance away to increase driving safety would have suggested to one of ordinary skill in the brake art that braking longer by shifting the start of braking to an earlier point in time increases driving safety.” As was clearly explained in the last response, any Official Notice is respectfully traversed to the extent that it is maintained and it is requested that the Examiner provide specific evidence to establish those assertions and/or contentions that may be supported by the Official Notices under 37 C.F.R. § 1.104(d)(2) or otherwise.

United States Patent No. 5,420,792 (“Butsuen”) (the U.S. Patent that claims priority to DE ‘354) states that “the desired vehicle distance  $L_1$  is precisely calculated, taking into consideration the friction coefficient  $\mu$  of road surface, [*sic*] and the warning distance  $L_2$  is also properly set based on the desired vehicle distance  $L_1$ , the relative velocity, the safety factor  $K$  and the safety ratio  $\alpha$ .” Butsuen at col. 6, line 67 to col. 7, line 4. There is no disclosure of anything being dependent on time.

Additionally, even if the feature of “varying a time of initiating an emergency braking as a function of the determined attainable vehicle deceleration” would have been obvious – which is not conceded for purposes of this response – based on DE ‘354 supposedly describing a quick braking at a certain *distance* after  $L_2$  (e.g., the warning point), DE ‘354 does not disclose the feature of “varying a [distance until] initiating an emergency braking as a function of the determined attainable vehicle deceleration.” Equations (1) and (3) of Butsuen clearly define  $L_2$  as being equal to  $L_1$  minus  $[K(V_{diff})^2/2\alpha]$ , so that the distance between the two (i.e.  $L_2$  minus  $L_1$ ) is equal to  $L_1$  minus  $[K(V_{diff})^2/2\alpha]$  minus  $L_1$ , which is reduced to just  $[K(V_{diff})^2/2\alpha]$ . Thus, by mathematical reduction, Butsuen clearly defines the distance between a warning break and a quick break as  $[K(V_{diff})^2/2\alpha]$  -- which is wholly unrelated to a “determined attainable vehicle deceleration.”

More specifically,  $K/2$  is a constant and the square of the difference in velocities between a first vehicle and a second vehicle (e.g.,  $V_{diff}$ ), which are both unrelated to “a function of the determined attainable vehicle deceleration.” Further,  $\alpha$  is referred to as “a *predetermined* safety ratio” and is “*smaller* than the deceleration  $\alpha_1 g$  of the driving vehicle.” (Butsuen at col. 6, lines 12, 18, and 19). Thus Butsuen and DE ‘354, do not disclose even the feature of “varying a [distance until] initiating an emergency braking as a function of the *determined attainable vehicle deceleration*.”

Further, the Ito, DE '354, and Rump references, whether taken alone or combined, do not disclose or suggest the feature of claim 12 in which "increasing a braking force during the preliminary warning braking until at least one wheel locks reaching a maximum slip limit." The Office Action acknowledges that Ito and DE '354 do not disclose this feature. As to Rump, while it may refer to an "anti-lock brake system [where] the locking limits for at least one wheel thereof has been reached," it does so in an entirely different context, so that it simply would not have been obvious to combine Rump with either Ito or DE '354, let alone the combination of the two. As to a lock limit as an ABS trigger, an ABS trigger is fundamentally different than the automatic start of a breaking sequence, as provided for in the context of claim 7.

For example, claim 7 recites a "method for automatically initiating an emergency braking sequence, comprising: performing . . . [and] increasing a braking force . . . until at least one wheel locks reaching a maximum slip limit." That is, claim 7 *automatically* performs this, *as part of the method*. The Rump system does nothing but wait (*see* Figure at 101) until the *driver manually* causes the brakes to lock up. Even if this did trigger the antilock braking method of the Figure, the entire point of the method is to eliminate the wheel-lock state, which is the exact opposite of intentionally and automatically causing wheel lock.

Further, Rump has no need to measure conditions during wheel lock, as ABS presupposes the need for maximum immediate deceleration. (See, e.g., Rump at col. 1, lines 56 and 57). Also, the Rump method assumes that the driver is fully aware and reacting to an emergency braking, as the driver is the direct manual cause of the ABS activation, which is also unrelated to a method of automatically breaking when "the driver himself does not notice the obstacle in a timely manner or does not respond quickly enough." (See, e.g., Specification at page 2, lines 8 and 9).

Also, wheel-lock (which is not part of the method of Rump) triggers the start of a method that does absolutely nothing to affect breaking for the duration of  $t_0$  (as opposed to causing the "ceasing the increasing of the braking force"), and after  $t_0$  distributes pressure to cause the fastest possible breaking. This is wholly unrelated to causing the most comfortable breaking that is still effective, as provided for in the context of collision avoidance breaking methods. The Rump reference simply provides no reason or motivation to combine it with either Ito or DE '354, let alone the combination. The Office conclusorily asserts that "[it] would have been obvious . . . to provide a means of determining when to trigger an automatic breaking operation," but, as shown, Rump does *not* provide a means [i.e. via wheel lock] to *determine when to trigger* an automatic breaking operation, since the wheel lock *is* the trigger itself, of an unrelated method.

For at least these reasons, claim 7 is allowable, as are its dependent claims.

Claim 12, as presented, includes features like those of claim 7, as presented, and it is therefore allowable for the same reasons, as are its dependent claims.

Claims 7, 8, and 10 to 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Ito, in view of U.S. Patent No. 5,297,861 (“Morita”), in view of Rump.

The Morita reference suffers from at least some of the same defects as the Rump reference, as explained above. Specifically, Morita, like Rump, concerns a method of modifying an antilock breaking system, and it is therefore wholly unrelated to a method of automatically breaking, as explained above. Additionally, Morita cannot be combined with Rump, since Rump is asserted for the feature of “increasing a braking force . . . until at least one wheel locks reaching a maximum slip limit,” while Morita concerns a system for avoiding this condition. For example, col. 2, lines 53 to 55, refers to: “preventing early locking of the rear wheels by the function of the proportioning valve.” Also, col. 3, lines 4 to 6, states that: “it is possible to operate the proportioning valve at an earlier time on a slippery road surface, preventing early locking of the rear wheels.” Thus, there would be no reason or motivation to combine Morita (which prevents wheel lock) with Rump (which is asserted for the feature of wheel lock). For at least this reason, and those explained above as to Rump, claim 7 is allowable, as are its dependent claims.

Claim 12, as presented, includes features like those of claim 7, as presented, and it is therefore allowable for the same reasons, as are its dependent claims.

Claims 7, 8, and 10 to 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,238,021 (“Sugimoto”) in view of Morita, and in further view of Rump.

As explained above, the same defects exist, if Sugimoto is combined with either Morita or Rump. Further, as explained above, Morita and Rump are incompatible, and it is therefore not obvious to combine them.

For at least these reasons, claim 7 is allowable, as are its dependent claims.

Claim 12, as presented, includes features like those of claim 7, as presented, and it is therefore allowable for the same reasons, as are its dependent claims.

Accordingly, claims 7, 8, and 10 to 17 are allowable.

As further regards all of the obviousness rejections, any Official Notice is respectfully traversed to the extent that it is maintained and it is requested that the Examiner provide specific evidence to establish those assertions and/or contentions that may be supported by the Official Notices under 37 C.F.R. § 1.104(d)(2) or otherwise. In particular, it is respectfully requested that the Examiner provide an affidavit and/or that the Examiner provide published information concerning these assertions. This is because the § 103 rejections are apparently being based on assertions that draw on facts within the personal knowledge of the Examiner, since no support was provided for these otherwise conclusory and unsupported assertions. (See also MPEP § 2144.03).

*New claims 18 to 23 do not add any new matter and are supported by the present application. Claims 18 to 20 depend from claim 7 and they are therefore allowable for the same reasons, and for the further reason they include combinations of features that are not disclosed or suggested by the applied references. Claims 21 to 23 depend from claim 12 and they are therefore allowable for the same reasons, and for the further reason they include combinations of features that are not disclosed or suggested by the applied references.*

Accordingly, claims 7, 8, and 10 to 23 are allowable.

**CONCLUSION**

In view of the above, it is respectfully submitted that all of presently pending claims 7, 8, and 10 to 23 are allowable. It is therefore respectfully requested that the rejections (and any objections) be withdrawn, since they have been obviated. Since all issues raised have been addressed, an early and favorable action on the merits is respectfully requested.

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Respectfully submitted,

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